

# Spur Gear

Pressure Angle 20°, Module 2.0, Shaft Bore Configurable Type

Fixing Parts				Others	
Rotary Shaft	Cantilever Shaft	MechaLock	Parallel Key	Bearing with Housings	Shaft Collar
P.1-837	P.1-901	P.1-1521	P.2-277	P.1-947	P.1-1017
P.1-900	P.1-926	P.1-1530	P.2-282	P.1-1014	P.1-1049
					P.1-297
					P.1-330

For products uncovered by the e-Catalog Standard, see P.131.

Type			Material	Surface Treatment	Accessory
Straight Bore	Straight Bore + Tap	Keyway, Keyway + Tap			
GEAHB	GEAB	GEAKB	S45C Equivalent	Black Oxide Electroless Nickel Plating	Set Screw (SCM435, Black Oxide)
GEAHBB	GEABB	GEAKBB			
	GEABG	GEAKBG			
GEAHS		GEAKS	SUS304		Set Screw (SUS304)

Set Screw is not included in Un-tapped Type products.

**Gear Shape**

Shape A:

Shape B:

Shaft Bore Specifications (Selectable Gear Shapes):  
 Straight Bore (Shape A, Shape B) | Straight Bore + Tap (Shape B)  
 Keyway (Shape A) | Keyway + Tap (Shape B)

For Tap, Keyway Dimension Details, see P.1532.  
 Positioning of keyway and teeth is not fixed.

Accuracy Previous JIS B 1702 Class 4 (New JIS B 1702-1 Class 8 Equivalent)

RoHS10 Tapped shaft bores are not available for Shape A.

When desiring to fix the gear hub onto the shaft through MechaLock, see Keyless Type on P.1557. For configuring the tooth width / hub dimensions, see P.1551.

Part Number	Number of Teeth	B	Gear Shape	Shaft Bore Dia. P#7 (1mm Increment)		d Reference Dia.	D Tip Dia.	G Root Dia.	H	L	l1	l2	M (Coarse)	Allowable Transmission Force (N·m)	
				Straight Bore	Keyway, Keyway + Tap									S45C Equivalent	SUS304
Straight Bore (Shape A, Shape B) GEAHB GEAHBB GEAHS	12	20	A	8	8N	24	28	19	18	30	10	5	M5	19.75	11.27
	13			8~11	26	30	21	20	22.65					12.92	
	14			8N	28	32	23	25.58	14.6						
	15			8~15	30	34	25	28.65	16.35						
	16			8~16	32	36	27	31.73	18.11						
	17			8~19	34	38	29	34.89	19.91						
	18			8~21	36	40	31	38.07	21.73						
	19			8~17N	38	42	33	41.27	23.55						
	20			8~18N	40	44	35	44.59	25.45						
	21			8~19N	42	46	37	47.87	27.32						
Straight Bore + Tap (Shape B) GEAB GEABB GEABG	22	20	B	8~23	8N-18N	44	48	39	36	34	14	7	M6	51.27	29.26
	23			8~25	8N-22N	46	50	41	37					54.57	31.14
	24			8~28	8N-23N	48	52	43	40					57.96	33.07
	25			8~30	8N-27N	50	54	45	42					61.43	35.05
	26			8~33	8N-30N	54	58	49	45					64.99	37.09
	27			8~35	8N-31N	58	62	53	47					68.39	39.02
	28			8~36	8N-32N	60	64	55	48					72.12	41.16
	29			8~38	8N-33N	64	68	59	50					75.35	43
	30			10~38	10N-33N	68	72	63	52					78.93	45.04
	Keyway (Shape A) Keyway + Tap (Shape B) GEAKB GEAKBB GEAKS			32	20	A	10~38	10N-33N	68					72	63
34		10~40	10N-35N	70			74	65	52	93.52	53.37				
35		10~43	10N-37N	72			76	67	55	97.01	55.36				
36		80	84	75			60	100.13	57.14						
38		84	88	79			62	107.7	61.46						
40		88	92	83			65	114.52	65.35						
42		90	94	85			68	121.92	69.57						
44		92	96	87			70	129.46	73.88						
45		96	100	91			72	133.29	76.06						
46		98	102	93			74	137.15	78.26						
Keyway (Shape A) Keyway + Tap (Shape B) GEAKB GEAKBB GEAKS	48	20	B	10~50	10N-42N	100	104	95	62	34	14	7	M6	144.35	82.38
	50			104	108	99	65	151.64	86.53						
	52			108	112	103	68	158.99	90.73						
	54			110	114	105	70	166.42	94.97						
	55			112	116	107	72	170.54	97.32						
	56			114	118	109	74	174.69	99.69						
	58			116	120	111	76	181.5	103.58						
	60			118	122	113	78	189.16	107.94						
	62			120	124	115	80	196.02	111.86						
	64			122	126	117	82	203.78	116.29						
Keyway (Shape A) Keyway + Tap (Shape B) GEAKB GEAKBB GEAKS	65	20	A	15~52	15N-44N	124	128	119	65	34	14	7	M6	203.78	116.29
	66			128	132	123	68	207.23	118.26						
	68			130	134	125	70	219.54	125.28						
	70			136	140	131	72	226.51	129.26						
	72			140	144	135	74	233.49	133.49						
	74			144	148	139	76	245.07	138.15						
	75			150	154	145	78	263.82	145.33						
	76			160	164	155	80	282.76	153.06						
	78			170	174	165	82	301.9	161.35						
	79			180	184	175	84	321.22	170.18						
80	190	194	185	86	340.71	179.55									
81	200	204	195	88	360.36	189.47									

\* marked number of teeth is not available for GEAKS, GEAKS. The "-" text on the above table means that any Shaft Bore Dia. is not selectable.  
 Shaft bore diameter 9N is not available for Keyway Bore + Tap.  
 Specify 10K as the P dimension if keyway width of 4.0mm (height 1.8mm) for Keyway + Tap with shaft bore diameter of 10 is desired P.1532.  
 Allowable Transmission Forces in the table are reference values calculated with prescribed conditions. For conditions, see P.1534.

Ordering Example	Part Number	Number of Teeth	B	Gear Shape	P
	GEAKBG2.0	15	20	B	10N
	GEAHB2.0	30	20	A	8

Number of Teeth	Unit Price									
	Straight Bore			Straight Bore + Tap			Keyway, Keyway + Tap			
	GEAHB	GEAHBB	GEAHS	GEAB	GEABB	GEABG	GEAKB	GEAKBB	GEAKBG	GEAKS
12										
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Alterations

Part Number: GEAB2.0 - 15 - 20 - B - 8 - KC120  
 GEABG2.0 - 50 - 20 - A - 20 - WDH-Q25-R25-S6-T5

Alterations	Set Screw	Tapped Hole Dimension	Stepped Hole	Both Ends Stepped Bore
Code	KC90, KC120	TPC	DHL, DHR	WDH
Spec.	KC90: Adds another set screw at 90° position. KC120: Adds another set screw at 120° position. Not applicable to Shape A. Not applicable to Straight Bore Type.	Changes the tapped hole dimension. Ordering Code] TPC4 Not applicable to Shape A. Not applicable to Straight Bore Type.	Changes shaft bores to stepped bores. (Z: 1mm Increment, J: 0.1mm Increment) Ordering Code] DHL-Z20-J4.0 (Applicable to Straight Bore Type Only)	Changes shaft bores to both ends stepped hole. (Q, R, S, T: 1mm Increment) (S, T: 3) Ordering Code] WDH-Q10-R10-S5-T5 (Applicable to Straight Bore Type Only)

Alterations	Side Counterbored	Side Slotted Hole	Side Through Hole	Side Tapped Hole
Code	ZFC, ZTC	LFC, LTC	KTC, KFC	QFC, QTC
Spec.	Machines counterbored holes on the side surface. (ZFC, ZTC: 1mm Increment) P+U1+3<ZFC(ZTC)<G-U1-4 Applicable to Shape A only. U Selection] U3, U4, U5, U6	Machines slotted holes on the side surface (30°). (LFC, LTC: 1mm Increment) P+C+4<LFC(LTC)<G-C-4 Applicable to Shape A only. M Selection] M3, M4, M5, M6	Machines through holes on the side surface. (KFC, KTC: 1mm Increment) K: 0.5mm Increment Applicable to Shape A only. P+K+4<KFC(KTC)<G-K-4 K Selection] K3.0-K6.0 (Ordering Code] KFC20-K3.5	Machines tapped holes on the side surface of the gear. (QFC, QTC: 1mm Increment) Applicable to Shape A only. P+M+4<QFC(QTC)<G-M-4 M Selection] M3, M4 (Ordering Code] QFC25-M3 Tapped Hole Depth Mx1.5 (When B-Mx1.5, through)